UNITED STATES MARINE CORPS
Basic Officer Course
The Basic School
Marine Corps Combat Development Command
Quantico, Virginia 22134-5019

B2111

M249 SQUAD AUTOMATIC WEAPON (SAW)

Student Handout

1. **General**. The Squad Automatic Weapon (SAW), 5.56mm, M249 is a result of a Marine Corps and Army development program to provide combat units with an automatic weapon of extended range and greater accuracy than the Browning Automatic Rifle. The M249 was developed by Fabrique Nationale of Herstal, Belgium in 1974 after the Defense Department announced its requirement for a light, automatic weapon to supplement the firepower of the 5.56mm M16A2 rifle. In the Marine Corps the SAW is used by combat, combat service support, and combat support units as well as by Marine Corps Security Forces. In Marine infantry battalions, the SAW is found in each fire team and is manned by the automatic rifleman (totaling nine per rifle platoon).

The M249 SAW has recently been upgraded. A few modifications have been made to selected parts of the weapon. Where feasible, these modifications have been explained in this handout. Those modifications not explained in this handout will be noted, and the appropriate pages in the new Operator's Manual (TM 08671A-10/1A) will be referenced.

2. **Description**. The SAW is a gas-operated, belt/magazine-fed, air-cooled, automatic, shoulder-fired weapon. (See Figures 1 and 1A.) The SAW is designed to be operated by one Marine, which increases the agility and mobility of the automatic rifleman in consonance with other members of the fire team. Like the M60E3 machine gun, the SAW fires from the open-bolt position. It can fire ammunition from an M16 magazine as well as from a linked belt. Utilizing M855/SS109 ammunition, the SAW provides the Marine Corps with a light automatic weapon capable of providing increased firepower and much greater effective ranges over threat weapons of similar caliber.

3. **General Data** (differences with upgraded SAW included)

a. Weight

		Kilograms	Pounds
(1)	SAW (with bipod and tools)	6.88	15.16
	Upgraded SAW (with bipod and tools)	7.72	17.00
(2)	200 round boxed ammo	3.14	6.92
(3)	SAW and 200 rounds	10.02	22.08
	Upgraded SAW and 200 rounds	10.86	23.92

b. Length (overall) 1.038m 40.87 inches
Upgraded SAW 1.035m 40.75 inches

c. Rifling twist 1 turn in 7 inches

d. Rates of fire

(1) Cyclic 725 rounds per minute (normal)
1000 rounds per minute (max)

Upgraded SAW 850 rounds per minute
*NOTE: Only one cyclic rate of fire exists for the upgraded SAW due to the lack of the variable gas system.

(2) Sustained 85 rounds per minute

(3) Rapid 200 rounds per minute

e. Ranges

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(1) Maximum 3,600m

(2) Maximum effective 1,000m (area); 800m (pt tgt)

(3) Maximum effective grazing 600m

f. Muzzle velocity

(1) M855 Ball 3025 ft per second

(2) M856 Tracer 2870 ft per second

g. Sights

(1) Front sight. The front sight post is the semi-fixed hooded post type. It is adjusted at the time of manufacture and should not be adjusted by using units. It is encircled by a metal hood to protect it from breakage or marring.

(2) Rear sight. The rear sight is adjustable for both elevation and windage by the means of two adjustment knobs on the left side of the weapon (loading port side). The front knob is used to adjust windage and the rear knob is used to adjust elevation. One click of either windage or elevation will move the strike of the round 2 inches for every 100m of range. Therefore, one click will move the strike of the round 2 inches at 100m, 4 inches at 200m, 6 inches at 300m, etc. In addition to the elevation adjustment knob, the rear sight aperture may be used to adjust elevation when battlesighting the weapon. To lower the strike of the round with the rear sight aperture, turn the aperture clockwise, and to raise the strike of the round turn the aperture counterclockwise. Each full rotation of the rear sight aperture will move the strike of the round 2 inches for every 100m of range. The use of this aperture to battlesight the weapon will be explained in paragraph 10.

Figure 1. M249 nomenclature

Figure 1A

4. **Disassembly**. Disassembly for the SAW consists only of field stripping for first echelon (operator) maintenance. Operators are not authorized to use any tools other than authorized cleaning gear to disassemble the weapon. When disassembling the SAW, parts should be laid out from left to right or right to left in the order disassembled, so the weapon can be easily reassembled in reverse order.

a. Clearing the SAW. Prior to handling any weapon, ensure that it is not loaded. To do this execute the following clearing procedures:

(1) Pull the cocking handle to the rear (palm up) and lock the bolt to the rear. Push the cocking handle forward until it clicks. (See Figure 2.)

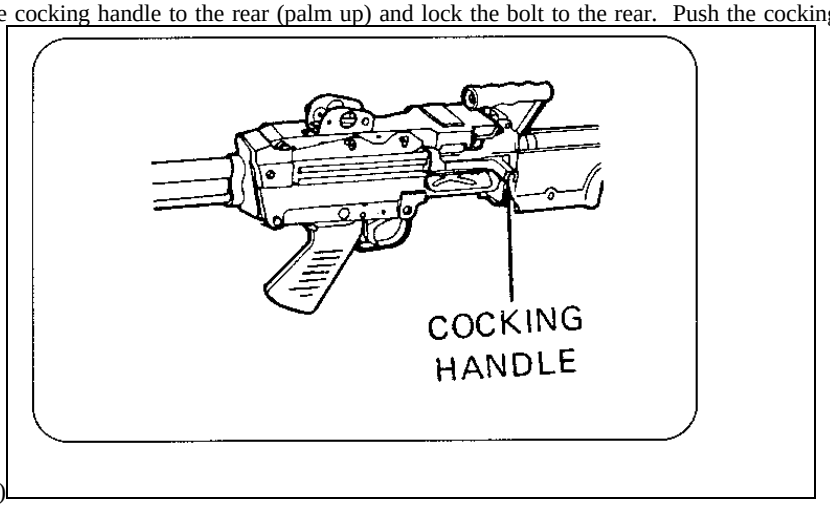

Figure 2. Cocking handle

(2) Push the safety from left (loading side) to right (ejection side). Red should NOT be visible on the

safety. (See Figure 3.)

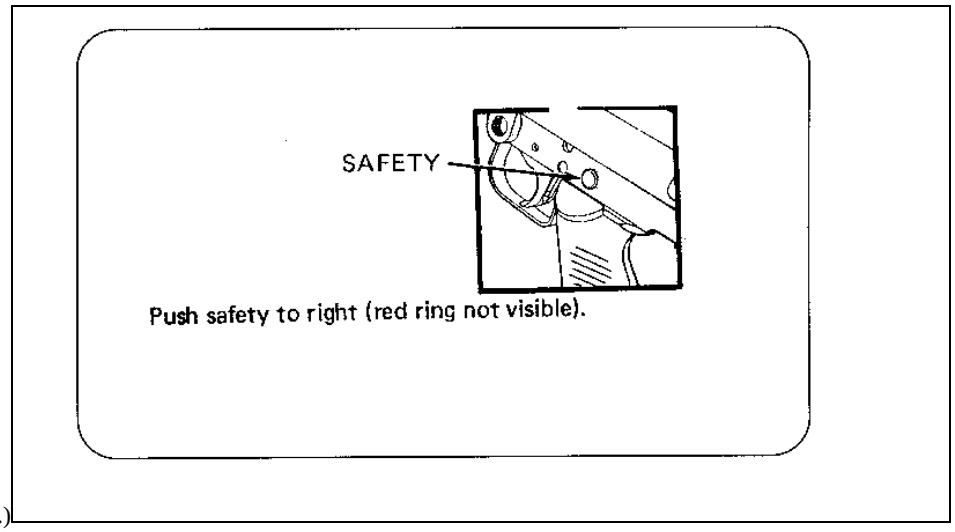

Figure 3. M249 safety

(3) If the weapon has been firing belted ammunition, raise the cover assembly and remove the belted ammunition. (See Figure 4.) If the weapon has been firing from a magazine, depress the magazine release tab and remove the magazine. (See Figure 4A.) Raise the cover assembly.

Figure 4. Raising the cover assembly to unload belted ammunition

Figure 4A. Removal of magazine ammunition before raising the cover assembly

(4) Raise the feed tray and inspect the chamber and receiver to ensure that all ammunition and links have been removed.

(5) When the chamber and receiver are clear, close the cover assembly and lock it.

(6) Push the safety from right to left (red now visible).

(7) Hold the cocking handle to the rear, squeeze the trigger and ride the bolt home. The weapon is now clear. (See Figure 5.)

*NOTE: NEVER allow the bolt to slam home on an empty chamber. This will damage the weapon.

Raise feed tray.
Look into chamber.

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Round still chambered?
Remove it.

Chamber empty?
Receiver clear?
Lower feed tray.
Close cover assembly
Make sure it locks shut.

Push safety to left (red ring visible). Hold cocking handle to rear, depress trigger and ride bolt forward to close and lock.

Figure 5. M249 clearing

LOCATION OF MAJOR COMPONENTS

1 - barrel
2 - heatshield
3 - receiver assembly
4 - rear sight assembly
5 - cover and feed mechanism assembly
6 - feed pawl assembly
7 - feed tray assembly
8 - cocking handle
9 - buffer and buttstock assembly
10 - bolt assembly
11 - slide assembly
12 - piston assembly
13 - drive spring
14 -operating rod
15 - trigger mechanism assembly
16 - hand guard
17 - sling and snap hook assembly
18 - bipod assembly
19 - gas cylinder
20. Gas collar
21. Gas regulator

Figure 6. Upgraded SAW parts nomenclature

(1) After ensuring that the weapon is clear, pull the upper retaining pin at the rear of the receiver to the left and allow the buffer and butt stock assembly to pivot downward. (See Figure 7.)

Figure 7. Buffer and Butt stock assembly rotated downward

(2) Remove the operating rod assembly from the receiver by pressing inward and up on the rear of the operating rod with one thumb. Slowly let the drive spring expand and remove it from the receiver. Separate the drive spring and operating rod. (See Figure 8.)

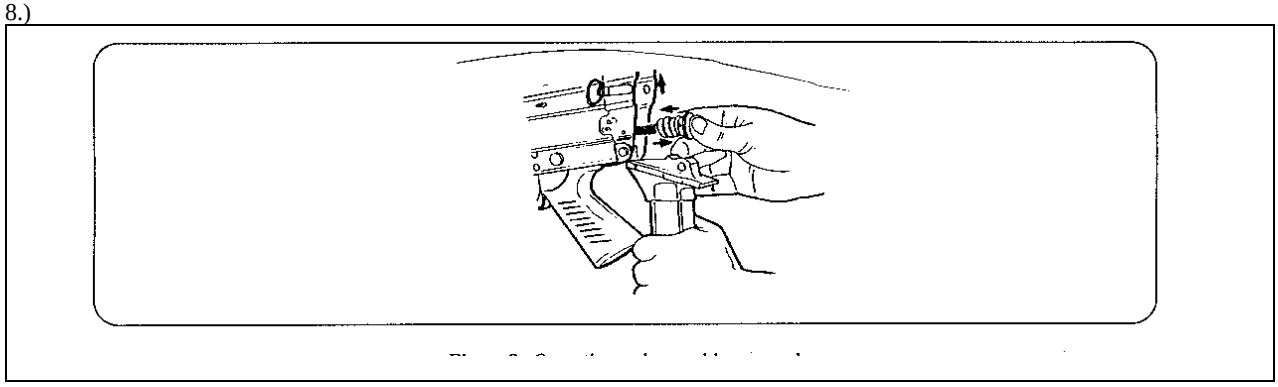


Figure 8. Operating rod assembly removal

(3) Remove the buffer and butt stock assembly from the receiver by pressing the lower retaining pin from the right to the left. Notice that the pin can be pressed outward far enough to let the stock fall free but can still hold the trigger mechanism assembly in place. (This is important for assembly.) (See Figure 9.)

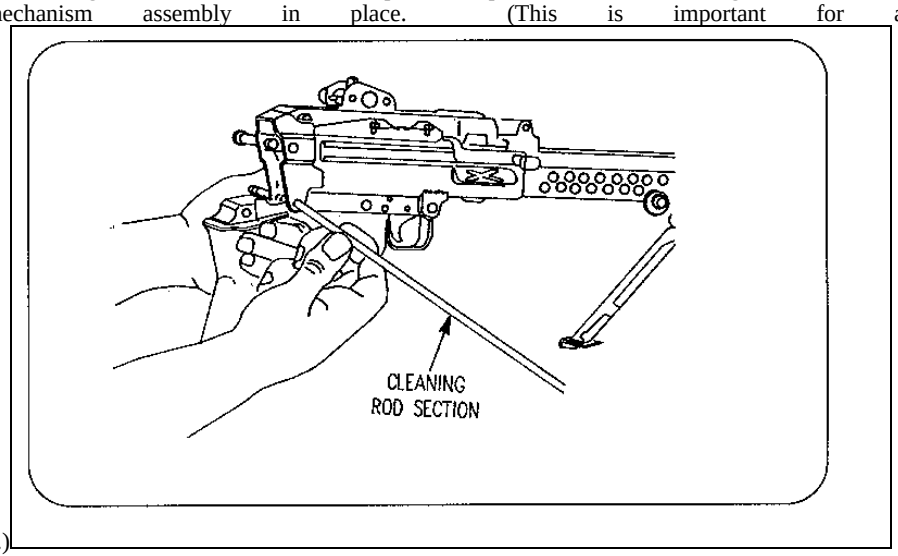


Figure 9. Buffer and Butt stock assembly removal

(4) Pull the lower retaining pin to the left as far as possible (pin will not completely clear the receiver), and remove the trigger mechanism assembly by pulling downward and to the rear on the handgrip. (See Figure 10.)

Figure 10. Trigger mechanism assembly removal

(5) To remove the piston, bolt, and slide assemblies, pull the cocking handle to the rear. Finish pulling the piston, bolt and slide assemblies to the rear with finger pressure and pull them from the rear of the receiver. (See Figure 11.)

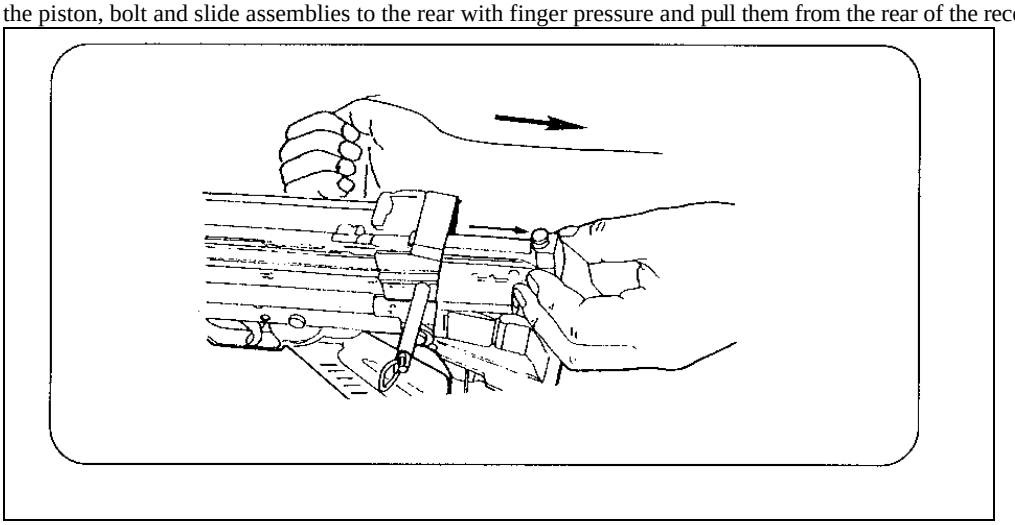


Figure 11. Piston, bolt and slide assemblies removal

(6) Separate the bolt from the slide assembly by rotating it counterclockwise (looking at the face of the bolt) and pulling it forward. (See Figure 12.)

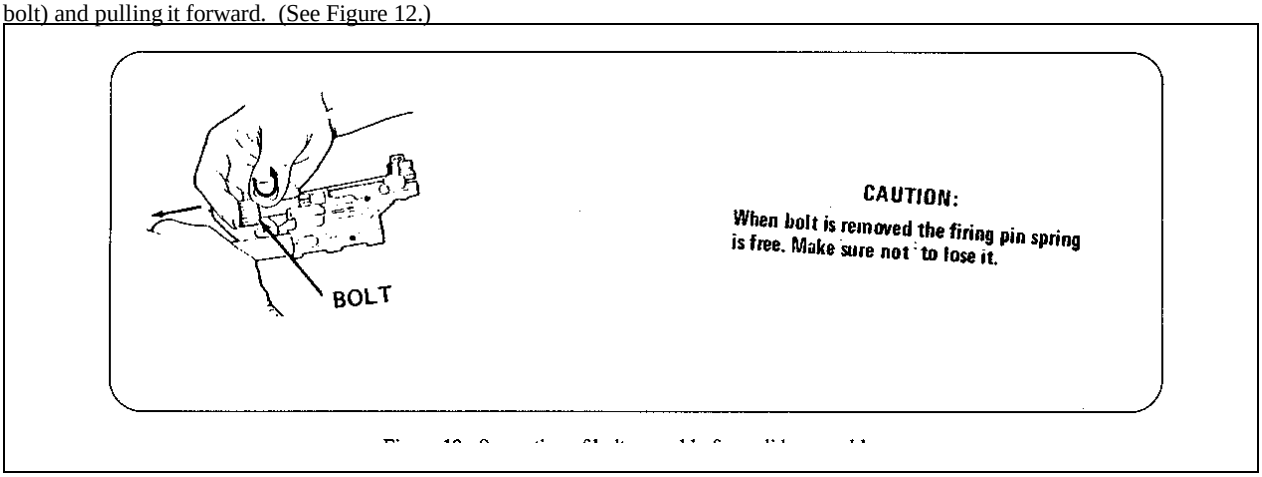


Figure 12. Separation of bolt assembly from slide assembly

(7) To separate the slide assembly from the piston, press the retaining pin from the right to the left. Once the pin is shifted, lift the slide assembly upward from the piston. The operating rod may be used to help press the retaining pin. (See Figure 13.)

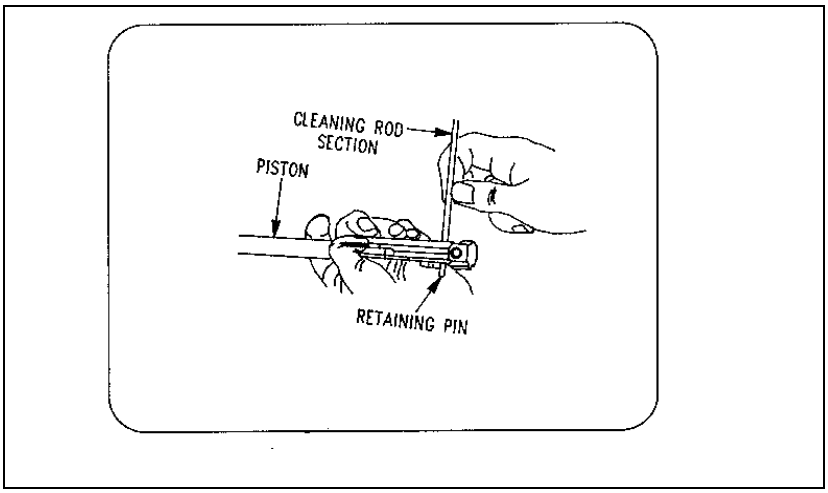


Figure 13. Separation of slide assembly from piston assembly

(8) To remove the heatshield, hold the weapon firmly, grasp the heatshield just forward of the barrel handle, and lift the heatshield off the barrel. (See Figure 14.)

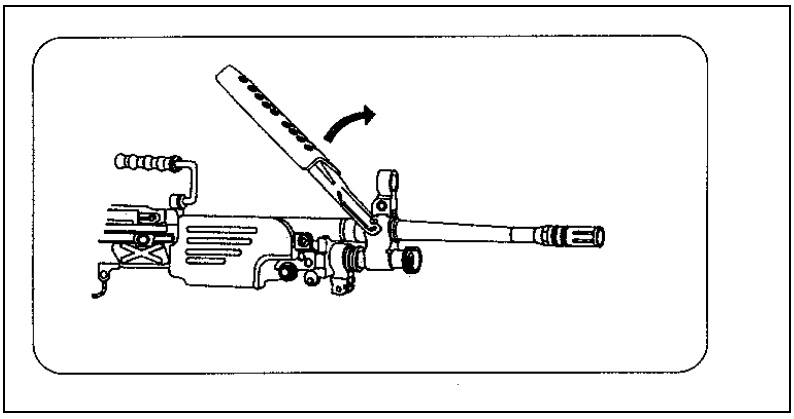


Figure 14. Heatshield removal

(9) Depress the barrel locking lever on the left side of the weapon (loading side). While the locking lever is held to the rear, grasp the barrel handle and lift upward and forward at the same time. The barrel should separate easily. (See Figure 15.)

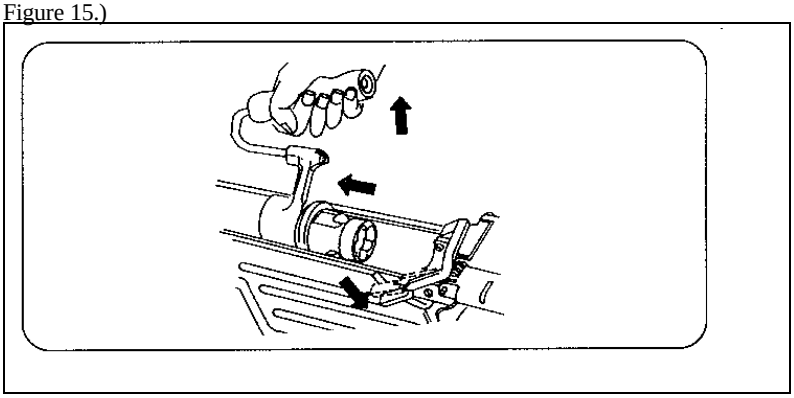


Figure 15. Barrel removal

(10) Remove the gas regulator from the barrel by positioning the regulator lever between normal and maximum (lever pointing downward away from barrel). With the new barrel, position the gas collar to allow the scraper tool to be installed. Place the tip of the scraper tool in the notch in the front left of the gas block. Holding the tip of the scraper tool in this position, rotate the collar detent up and over the tip and onto the top of the gas block. Pull forward on the gas collar and separate it from the gas block. (See Figure 16.)

Figure 16. Gas regulator and collar removal

(11) Remove the hand guard by pressing the retaining pin from right to left with a cleaning rod section. (The pin will not separate completely from the handguard.) Pull down on the rear of the handguard and separate it from the receiver. (See Figure 17.)

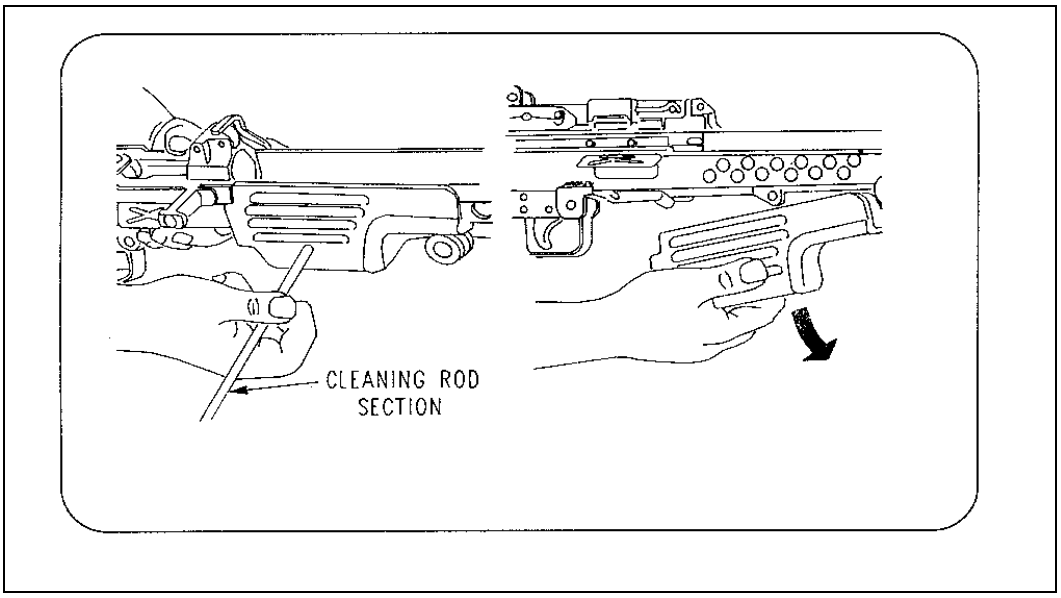


Figure 17. Hand guard removal

(12) Remove the bipod and gas cylinder by turning the gas cylinder to the left or right until you hear a click. Pull the gas cylinder forward and separate it from the bipod. (See Figure 18.)

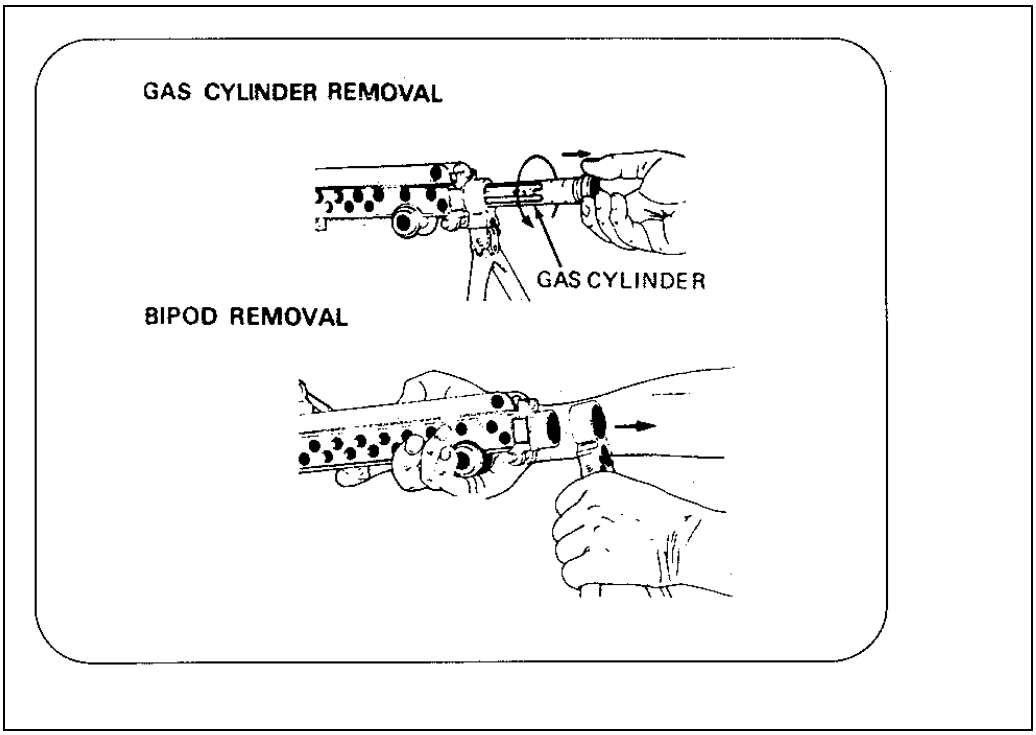


Figure 18. Gas cylinder and bipod removal

5. **Assembly**. To reassemble the SAW reverse the disassembly procedures. The following details are important in reassembling the weapon.

a. Ensure that the bipod yoke is placed on the end of the receiver, small opening first.

b. When re-inserting the gas cylinder into the receiver, some manipulation will be required with the fingers of the free hand to get the base of the cylinder to line up with the receiver. Be sure to turn the gas cylinder until it clicks and is locked in place.

c. When replacing the trigger assembly, push the retaining pin inboard just far enough to catch and hold the

trigger assembly in place. If you push it too far you will block the stock recess, and you cannot put the buffer and butt stock assembly in place until the pin is pulled outward.

d. When reassembling the gas regulator ensure that the lug on the rear of the regulator lines up with the lug on the rear of the gas block. Place the gas regulator collar over the front of the gas regulator and align the tapered lug of the regulator with the tapered recess of the collar. Hold the rear of the regulator, press down on the regulator collar, rotate the collar clockwise, and lock it in place. The new collar follows the same procedures. Refer to page 3-53 of the new TM for additional information on the upgraded SAW.

e. When placing the piston, bolt, and slide assemblies in the receiver, make sure that the slide recesses on the sides of the slide assembly are aligned with the slide rails of the receiver.

f. See page 3-61 of the new TM for the proper procedures to install the drive spring and operating rod for the upgraded SAW.

g. See page 3-63 of the new TM for the proper procedures to install the heatshield for the upgraded SAW.

6. **Function Check.** After assembly has been completed it will be necessary to perform a function check. Remember that function checks are only to check proper reassembly procedures. Function checks are not meant to take the place of actual live fire operational tests to be done before movement if the tactical situation permits. Function checks for the SAW consist of the following:

a. With the weapon off SAFE, hold the cocking handle, depress the trigger, and ride the bolt back and forth several times. The bolt should lock to the rear when the trigger is released.

b. With the bolt to the rear and weapon on SAFE, squeeze the trigger. The bolt should <u>not</u> go home.

7. **Operation**

a. <u>Loading (belt)</u>. To load the SAW, attach a 200 round box of ammunition to the underside of the receiver. Note that the underside of the receiver has a dovetail locking recess that will accept the dovetail lug on the ammo box. Align the recess and lugs and push them together until they lock. Pull outward on the ammo box to ensure that it is, in fact, locked in place. Locate the green belt tab on the top of the ammo box and pull up on it (the belted ammo is affixed to this tab and will be pulled from the ammo box). Open the cover assembly and place the belt of ammunition on top of the feed tray with the open side of the links facing downward. The first round should be placed against the cartridge stop and the belt tab should be placed to the right of the cartridge stop. Hold the belt in place and shut the cover assembly, making sure that it locks in place. If the bolt is forward, pull it to the rear (weapon can be loaded with the bolt closed or open), and push the cocking handle forward until it clicks. Place the weapon on SAFE. To fire, take weapon off SAFE and squeeze the trigger.

b. <u>Loading (magazine)</u>. To load the SAW using an M16 magazine, insert the magazine into the magazine well and push inward until the magazine latch clicks. If the bolt is not already to the rear, pull it rearward and lock it open, push the cocking handle forward and put the weapon on SAFE. The weapon will fire when taken off SAFE and the trigger squeezed.

c. <u>Unloading the SAW</u>. To unload the SAW the operator follows the same procedures for clearing. Pull the cocking handle to the rear and lock the bolt open. Push the cocking handle forward until it clicks. Place the weapon on SAFE, open the cover assembly, and remove ammo. Raise the feed tray and inspect the chamber. Close the cover assembly, take the weapon off SAFE, pull the cocking handle to the rear, squeeze the trigger, and ride the bolt home.

8. **Change Barrel Procedures**. The barrel of the M249 SAW should be changed after firing at the sustained rate (85 rds/min) for five minutes or at the rapid rate (200 rds/min) for two minutes. To change barrels, first make sure that the bolt is not forward (the locking lugs will be engaged in the locking recesses of the chamber, making removal/installation impossible). Clear the weapon but leave the bolt locked to the rear; put the weapon on SAFE! Depress the barrel locking lever, grasp the barrel handle with the other hand and pull forward and up on the barrel to remove it from the receiver. Handle the barrel carefully and avoid touching it. Install the cool barrel in the reverse order, making sure it is locked in place before attempting to fire. (See Figure 19.)

Figure 19. Barrel removal and installation for M249 charge barrel procedures

9. **Use of Gas Regulator**. The SAW is equipped with a gas regulator that can decrease or increase the pressure of the expanding gases that is applied against the face of the piston. The gas regulator has two different settings. This is made possible by the use of two gas ports of different sizes in the regulator. The normal setting (smaller gas port) is attained by turning the gas regulator so that it is pointing to the left (loading port side). If the functioning of the weapon should become sluggish due to freezing temperatures or dirt and carbon build up, the gas regulator should be turned to the maximum setting. In this position the gas regulator is turned to the right (pointing toward the ejection port side). This allows more gas to escape through the gas port and the result is greater pressure being applied to the face of the piston, which, in turn, drives the operating parts at a much greater operating speed. When using the maximum setting to clear dirt or carbon build-up, only 2-3 bursts need to be fired before returning the regulator to the normal setting. (See Figure 20.)

*NOTE: The new style barrel does not have the capability of changing/switching the gas regulator to deliver more power. Rotating the gas collar will not affect the cyclic rate.

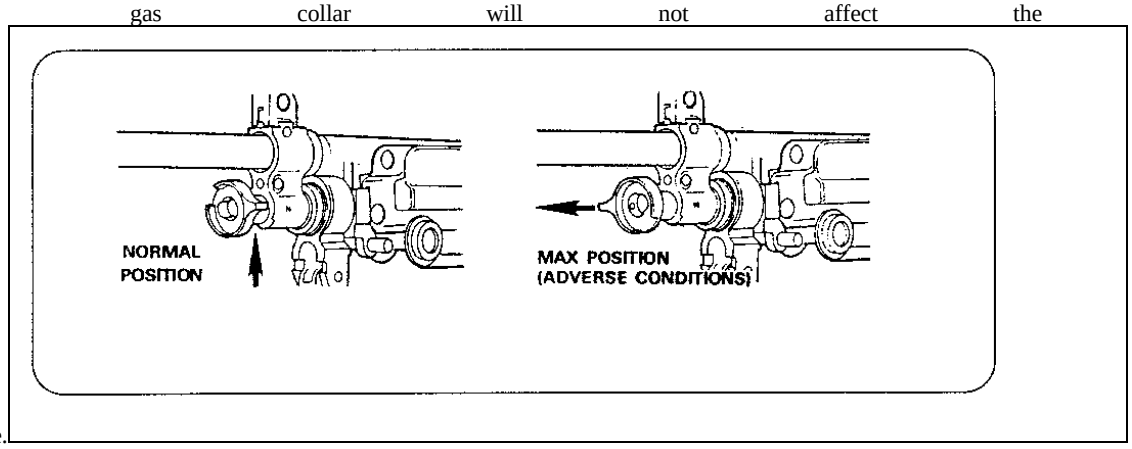


Figure 20. Gas regulator positions

10. **Field Zeroing Procedures**

a. Mechanical zero. Prior to field zeroing it will be necessary to set mechanical zero on the sights of the weapon. To do this rotate the windage knob (front knob) until the sight aperture is all the way to the left or right. Then rotate the knob all the way back until the sight aperture is on the other side, and at the same time count the number of clicks and divide this number by two. Example: 24 clicks from full right windage to full left windage. Mechanical zero is 12 (24 / 2 = 12), so count back 12 clicks from full left windage. Rotate the rear sight aperture clockwise until it will not turn any further. Rotate the aperture counterclockwise and count the number of rotations until it stops; divide this number by two and rotate the aperture clockwise this number of rotations. Mechanical zero is now set for both windage and elevation. (See Figure 21.)

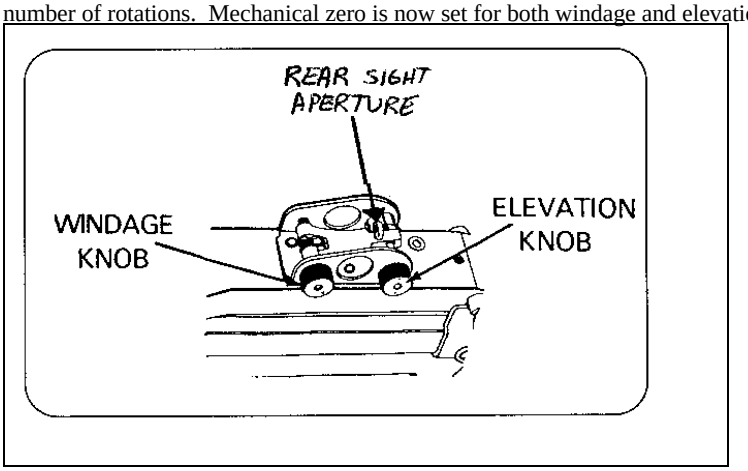


Figure 21. Rear sight assembly

b. Field zero. Place a range setting of 300m on the rear sight elevation scale. With mechanical zero set, fire a 3-5 round burst at a target 300m away. Adjust the rear sight for windage and elevation until the impact of the burst is centered on the target. Do not use the elevation adjustment knob to correct elevation. To do this rotate the rear sight aperture in the desired direction. Rotating the rear sight aperture clockwise will lower the impact of the burst; rotating it counterclockwise will raise the impact of the burst. When adjusting both the windage knob and rear sight aperture, one click moves the burst two inches for every 100m of range.

*NOTE: The weapon can be zeroed at any range so long as the range set on the rear sight elevation scale corresponds with the actual range to the target.

11. **Functioning**. The cycle of functioning of the M249 SAW occurs in the following sequence:

a. Feeding. This step takes place as the operator places a belt of ammunition on the feed tray or inserts a loaded magazine in the magazine well. Whichever method is used, the results are the same. A cartridge is placed in the path of the bolt so that as the bolt is driven forward from the force of the expanding driving spring, the face of the bolt makes contact with the rim of

the first cartridge and strips it from the links or magazine. As the bolt continues forward, the cam roller on top of the bolt forces the feed cam, in the cover assembly, to the left. This positions the feed pawl over the next cartridge to be chambered. When the burning gases of the fired cartridge cause the bolt to move to the rear, the feed cam lever and feed pawl are forced to the right. This causes the next round in the feed tray to be pulled to the right and placed in the feed tray groove ready for chambering.

b. Chambering. This action occurs as the bolt continues to move forward and forces the cartridge into the barrel chamber.

c. Locking. This occurs as chambering takes place. The locking lugs of the bolt pass through the locking recesses cut into the chamber. When the locking lugs and bolt face make contact with the rear of the chamber, the forward movement of the bolt stops. The slide assembly pushes the rotating lug of the bolt to the right. This rotation of the bolt causes the locking lugs to disalign with the locking recesses, and locking takes place.

d. Firing. After locking has occurred the piston and slide assemblies continue forward slightly. This forward movement ends when the slide assembly forces the firing pin through the face of the bolt. The firing pin then strikes the primer of the cartridge, and firing takes place.

e. Unlocking. Unlocking begins when expanding gases from the ignited propellant are vented off through the gas port in the gas regulator. The pressure of the expanding gases is directed rearward through the gas cylinder and force the piston assembly, slide assembly, and bolt to the rear. As the slide assembly moves to the rear the camming recess forces the camming lug of the bolt to the left. This causes the locking lugs on the bolt to align with the locking recesses in the chamber. The slide assembly continues to move to the rear and the bolt is withdrawn from the chamber.

f. Extracting. The extraction claw on the face on the bolt grips the cartridge case tightly by engaging the extraction groove. Thus, as the bolt moves rearward, the cartridge case is pulled from the chamber.

g. Ejecting. The extractor claw grips the lower right portion of the cartridge rim, and as the spent casing or cartridge is pulled to the rear, the ejector strikes the upper left of the base of the cartridge just as the bolt face clears the rear of the ejection port. This causes the cartridge case to pivot over the extraction claw and to be thrown clear of the receiver through the ejection port.

h. Cocking. As the bolt continues its movement to the rear, the piston assembly causes the driving spring to be compressed. Cocking is completed when the spring is fully compressed just before it begins to expand and drive the operating parts forward again.

12. **Immediate Action**. Should a stoppage of the M249 SAW occur, immediate action consists of the following steps:

a. Wait five seconds.

b. Pull the bolt to the rear and observe the ejection port. Push the cocking handle forward.

c. If a round is ejected, attempt to fire.

d. If a round is not ejected and the barrel is hot (200 rds fired within two minutes), do not open the cover assembly. Push the safety to the right (red not visible), keep the weapon pointed downrange, and remain clear from it for 15 minutes. After 15 minutes, clear the weapon.

e. If nothing is ejected and the barrel is not hot, clear the weapon.

13. **Runaway Gun Procedures**

a. A runaway gun is a weapon that continues to fire when the trigger is released. This is normally caused by a worn trigger sear, but can also be a result of a dirty or worn gas system.

b. To stop a runaway gun follow the procedures listed below:

(1) KEEP WEAPON POINTED DOWNRANGE.

(2) If firing from a magazine or if near the end of a 200 round belt, let the weapon continue to fire until the ammunition is expended.

(3) If you are not near the end of the ammunition belt, execute the following steps:

(a) Grab cocking handle (palm up), pull it all the way back and hold.

(b) Push the safety to the right (red not visible).

(c) Clear the weapon (raise cover, remove ammunition, inspect chamber, ride bolt home).

14. **Care and Cleaning**. Like any other weapon, the M249 SAW requires proper maintenance in order to operate reliably. This maintenance can be conducted by the operator utilizing authorized cleaning agents and equipment. (See Figure 22.) Each M249 is designed to hold cleaning tools in the hand guard. (See Figure 23.) This section covers the use of these tools in order to conduct first echelon care and cleaning. Prior to cleaning, the weapon should be fieldstripped and laid out in order of disassembly.

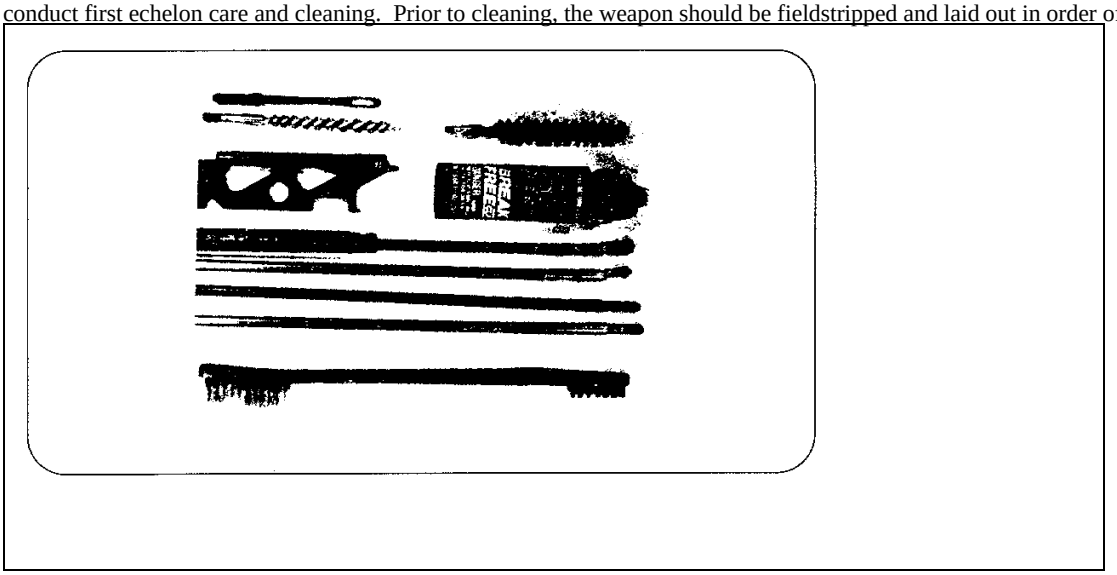


Figure 22. M249 cleaning material

Figure 23. Tool stowage

15. **Cleaning and Maintenance of the Barrels**

a. To clean the barrels of the M249 SAW, follow the same barrel cleaning procedures listed for the M16A2 in the B2105 student handout. Do NOT attempt to exercise the front sight. Adjustment of the front sight is not operator-authorized.

b. Each M249 will have one spare barrel. The barrels will not have serial numbers or any identifying marks. Each unit should have both barrels for each M249 marked in such a manner that they can be readily "married" to the M249 with which originally issued. Barrels should not be switched among other M249s. The wear on the barrel extension of each M249 will be slightly different, and switching barrels from another weapon will cause the weapon to function with a different headspace. Under these conditions a stoppage or malfunction will be likely. (Headspace is the distance between the face of the bolt, when locked, and the rear of the chamber. Headspace is normally very small and usually measured in thousandths of an inch.)

c. Efforts should be made to ensure that both barrels receive the same amount of use. This will cause the wear of both barrels to remain uniform and the headspace will not change.

16. **Cleaning the Receiver and Feed Cover Assembly**. To clean the receiver and cover assembly use CLP, a general purpose brush (tooth brush) and an M60E3 machine gun receiver brush (if available). Wipe the receiver clean and leave a light coat of CLP on the surface. Leave a moderate coat of CLP on the slide rails and the surface of the receiver. Leave a moderate coat on the slide rails and the moving parts of the cover assembly. Place a light coat of CLP on the rear sight and exercise the windage and elevation knobs.

17. **Cleaning the Gas System**. To clean the gas system (regulator, cylinder, gas block and piston) use CLP or cleaning solvents such as RBC (rifle bore cleaner). Do not use any type of oil to clean or lubricate the gas system. Wipe the gas system dry. To utilize the scraper tool to clean the gas system follow Figures 24 through 30.

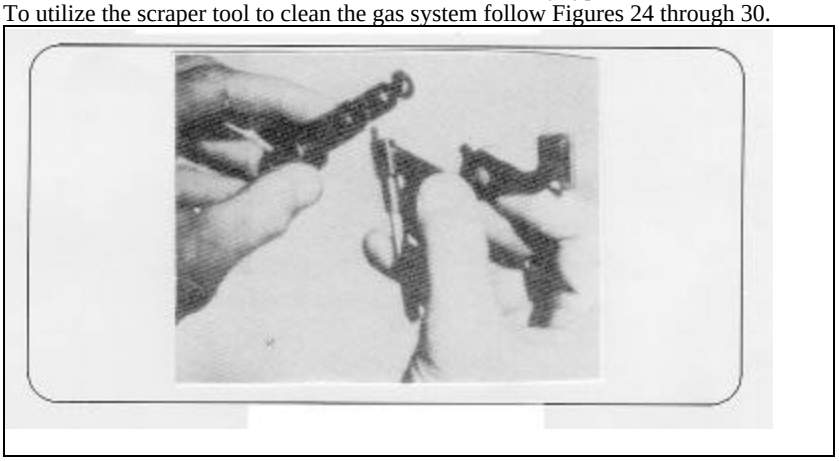


Figure 24. Cleaning gas ports

Figure 25. Cleaning central hole

Figure 26. Cleaning grooves of regulator

Figure 27. Cleaning internal diameter of gas cylinder

Figure 28. Cleaning internal grooves of gas cylinder

Figure 29. Cleaning piston grooves

Figure 30. Cleaning face of piston

18. **Handling the M249 Squad Automatic Weapon**

CONDITION CODES

Condition 1	Ammunition in position on feed tray (or magazine inserted), bolt locked to the rear, safety on.
Condition 2	Not applicable to the M249.
Condition 3	Ammunition in position on feed tray (or magazine inserted), chamber empty, bolt forward, safety on.
Condition 4	Feed tray clear of ammunition (magazine removed), chamber empty, bolt forward, safety on.

COMMANDS

"UNLOAD"	Place the M249 in condition 4.
"LOAD"	Place the M249 in condition 3.
"MAKE READY"	Place the M249 in condition 1.
"FIRE"	Is the command used to specify when Marines may engage targets.
"UNLOAD, SHOW CLEAR"	Is the command that will allow the chamber to be checked by a second individual prior to going to condition 4.

a. Execute "UNLOAD" taking the weapon from condition 1 to condition 4 (belt-fed technique).

(1) Ensure the weapon is on SAFE.

(2) Open the feedtray cover.

(3) Remove all ammunition and belt links.

(4) Lift the feedtray and inspect the chamber to ensure that no ammunition is present.

(5) Close the feedtray cover.

(6) Take the weapon off safe.

(7) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

(8) Pull the cocking handle to the rear one inch and put the weapon on SAFE.

(9) Release the cocking handle.

b. Execute "UNLOAD" taking the weapon from condition 1 to condition 4 (magazine-fed technique).

(1) Ensure the weapon is on SAFE.

(2) Remove the magazine from the weapon and retain it on your person.

(3) Open the feedtray cover.

(4) Lift the feedtray and inspect the chamber to ensure that no ammunition is present.

(5) Close the feedtray cover.

(6) Take the weapon off SAFE.

(7) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

(8) Pull the cocking handle one inch to the rear and put the weapon on SAFE.

(9) Release the cocking handle.

c. Execute "LOAD" taking the weapon from condition 4 to condition 3 (belt-fed technique).

(1) Ensure the weapon is in condition 4. (See "UNLOAD.")

(2) Open the feedtray cover.

(3) Place the first round of the belt in the feedtray groove with the open side of the link down.

(4) Close the feedtray cover.

d. Execute "LOAD" taking the weapon from condition 4 to condition 3 (magazine-fed technique).

(1) Ensure the weapon is in condition 4 (See "UNLOAD.")

(2) Withdraw the magazine from the magazine pouch.

(3) Look at the top of the magazine to ensure that the magazine is loaded.

(4) Fully insert the magazine into the magazine well.

(5) Tug downward on the magazine to ensure that it is held in the weapon by the magazine catch.

(6) Close the magazine pouch.

e. Execute "MAKE READY" taking the weapon from condition 3 to condition 1.

(1) Take the weapon off SAFE.

(2) Pull the cocking handle fully to the rear.

(3) Push the cocking handle fully forward to the locked position.

(4) Place the weapon on SAFE.

*Note: The preferred method of "MAKE READY" is to go from condition 4 directly to condition 1, skipping condition 3. This minimizes damage to the weapon caused by placing ammunition on the feedtray with the bolt forward. Condition 3 has tactical viability, and should be used only when the situation dictates. To go directly to condition 1 from condition 4, the command "MAKE READY" is given, skipping the command "LOAD."

f. Execute "MAKE READY" taking the weapon from condition 4 directly to condition 1 (belt-fed technique).

(1) Take weapon off SAFE.

(2) Pull cocking handle fully to the rear.

(3) Push cocking handle fully forward to the locked position.

(4) Place the weapon on SAFE.

(5) Open the feedtray cover.

(6) Place the first round of the belt in the feedtray groove with the open side of the link down.

(7) Close the feedtray cover.

g. Execute "MAKE READY" taking the weapon from condition 4 directly to condition 1 (magazine-fed technique).

(1) Ensure weapon is in condition 4.

(2) Take weapon off SAFE.

(3) Pull cocking handle fully to the rear.

(4) Push cocking handle fully forward to the locked position.

(5) Place weapon on SAFE.

(6) Withdraw magazine.

(7) Ensure magazine is loaded.

(8) Fully insert magazine into magazine well.

(9) Tug downward on magazine to ensure that it is held in the weapon by the magazine catch.

h. Execute "FIRE".

(1) Take the weapon off SAFE and place finger on trigger.

(2) Engage target.

i. Execute "UNLOAD, SHOW CLEAR" (belt-fed technique).

(1) Pull the cocking handle to the rear.

(2) Put the weapon on SAFE.

(3) Open the feedtray cover.

(4) Remove all ammunition and belt links.

(5) Lift the feedtray and inspect the chamber to ensure that no ammunition is present.

(6) Have a second individual inspect the chamber to ensure no ammunition is present.

(7) Close the feedtray cover.

(8) Take the weapon off SAFE.

(9) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

(10) Pull the cocking handle one inch to the rear and put the weapon on SAFE.

(11) Release the cocking handle.

j. Execute "UNLOAD, SHOW CLEAR" (magazine-fed technique).

(1) Remove the magazine from the weapon and retain it on your person.

(2) Pull cocking handle to rear.

(3) Put the weapon on SAFE.

(4) Open the feedtray cover.

(5) Lift the feedtray and inspect the chamber to ensure that no ammunition is present.

(6) Have a second individual inspect the chamber to ensure no ammunition is present.

(7) Close the feedtray cover.

(8) Take the weapon off SAFE.

(9) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

(10) Pull the cocking handle on inch to the rear and put the weapon on SAFE.

(11) Release the cocking handle.

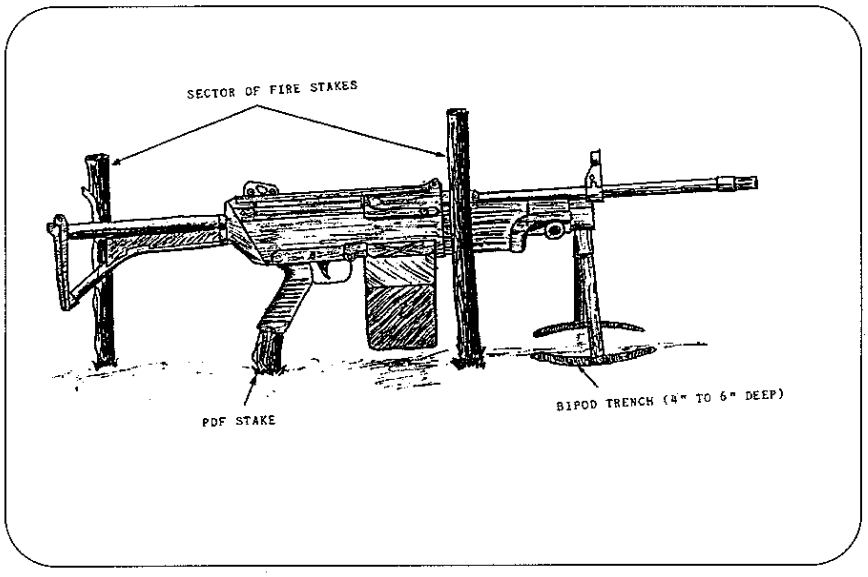
*Safety Note: After a live-fire exercise with the M249 SAW, All SAWs should be broken down so that the operating rod assembly and piston assembly are removed, and the receiver is visually and physically inspected for rounds that may have lodged there during firing. Also ensure that the magazine well is inspected for live rounds or empty casings.

19. **M249 SAW Aiming Stakes**

a. A yoke stake is not emplaced when the bipod legs are utilized. A trench of 4 to 6 inches deep should be dug for the bipod.

b. Right and left sector stakes are emplaced near the stock of the weapon. The sector stake to the right will be positioned further forward near where the ammunition drum is located. This prevents any obstruction to the firing hand.

c. A shorter stake is utilized as a PDF stake. The pistol grip will rest on the stake to ensure proper direction and elevation.



utomatic Rifleman Stakes

Figure 31. Automatic Rifleman Stakes

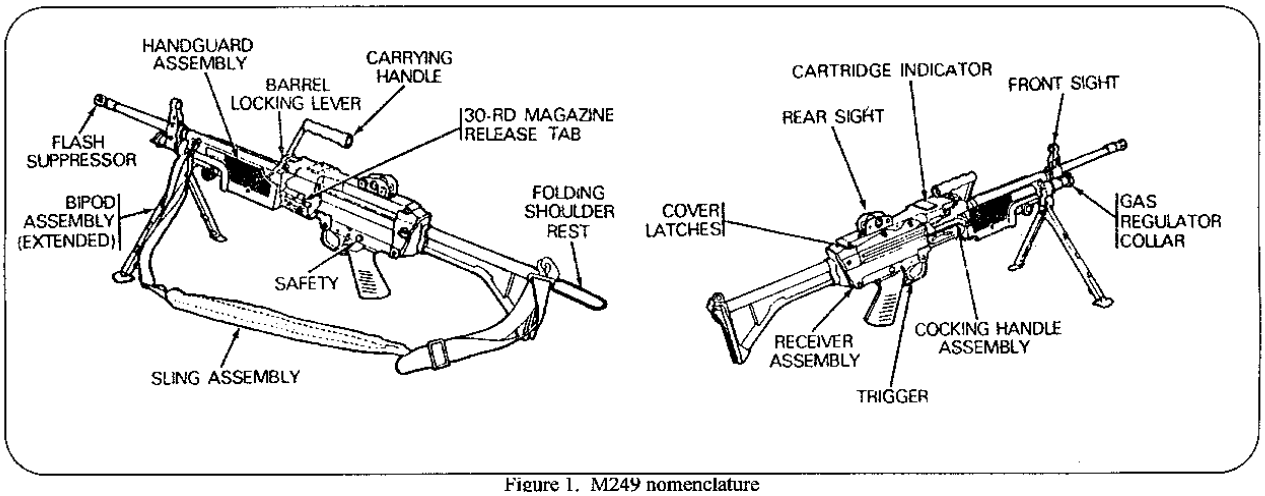
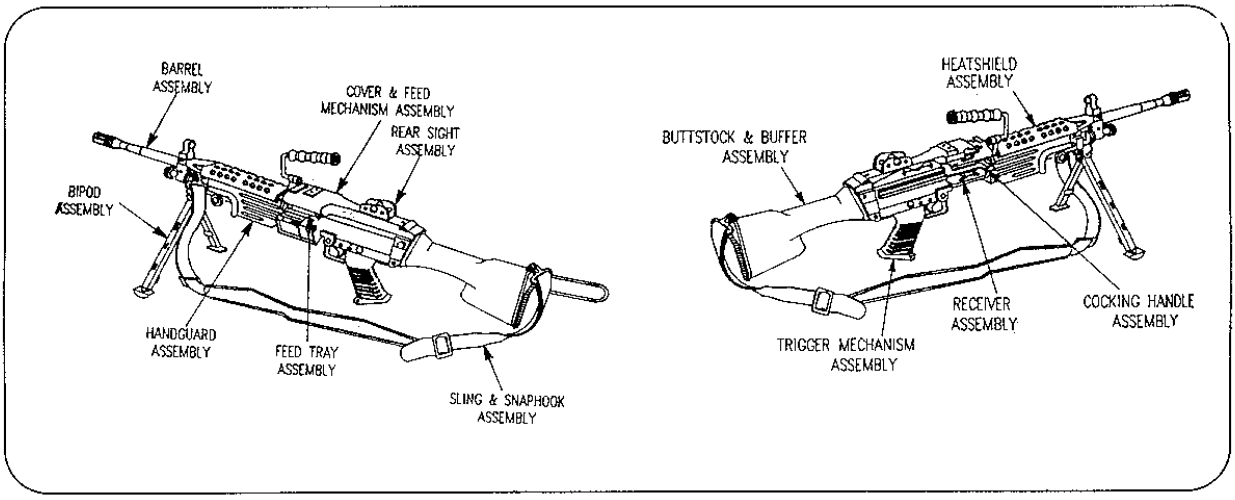
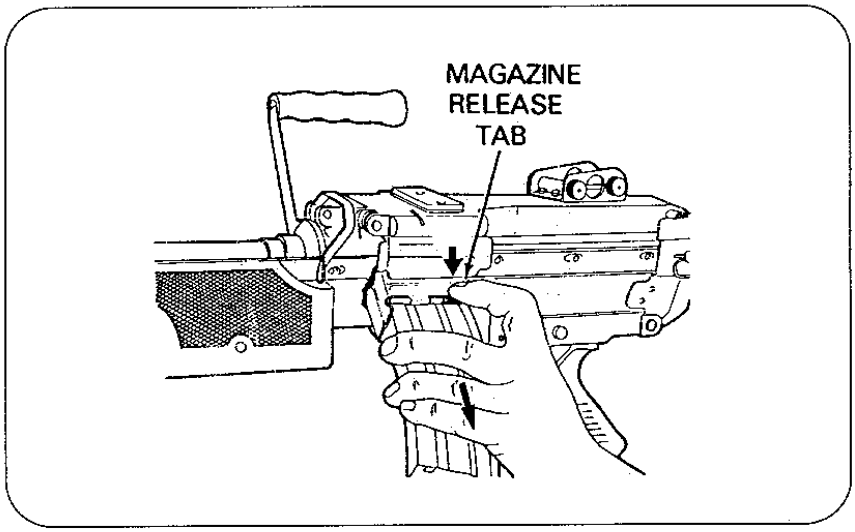
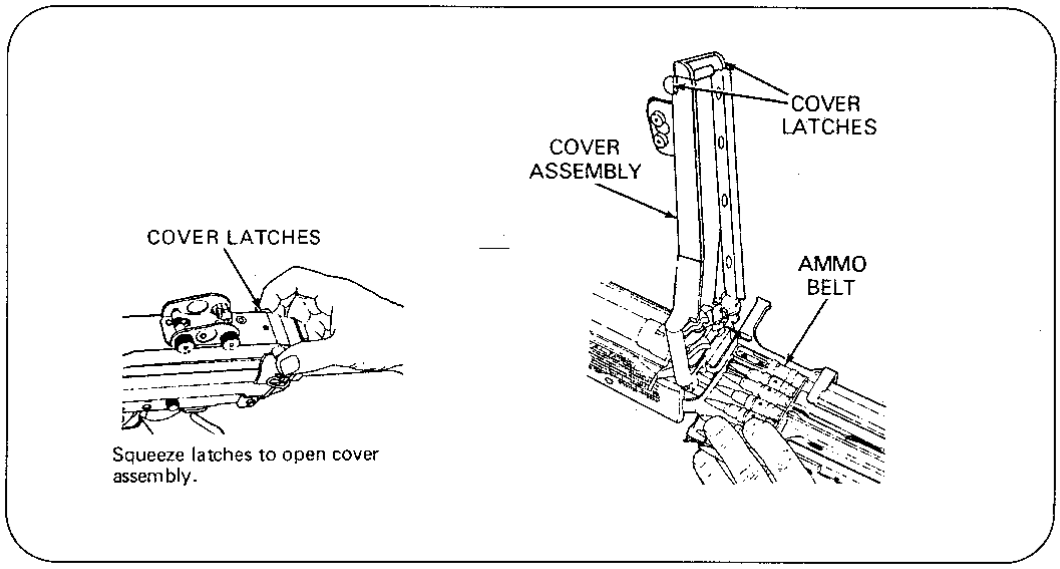
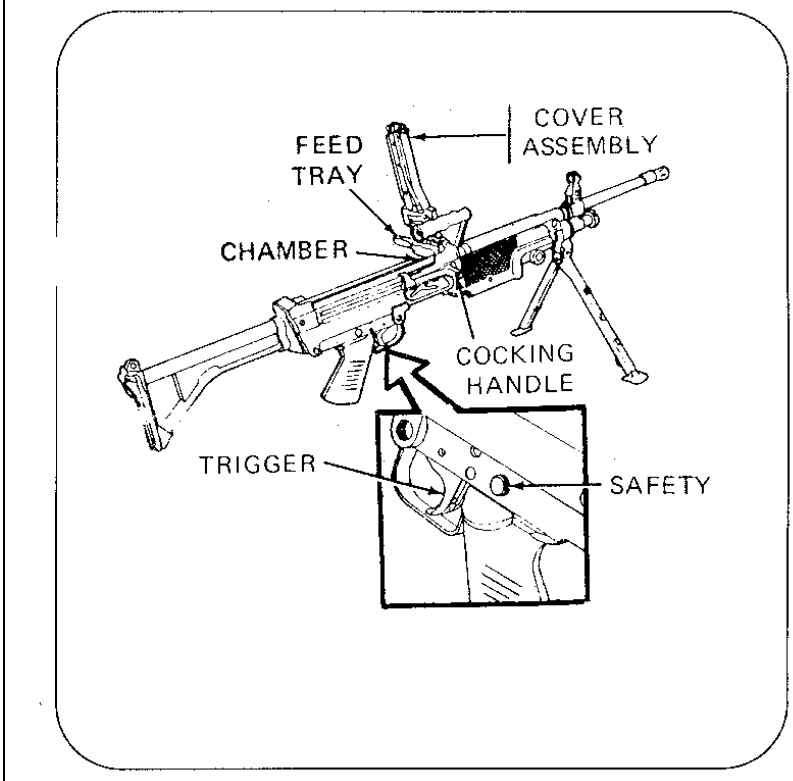


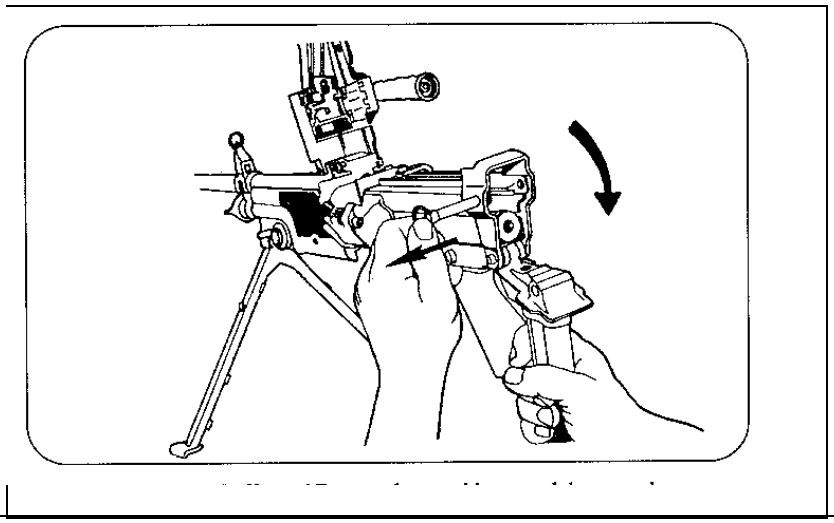
Figure 1. M249 nomenclature

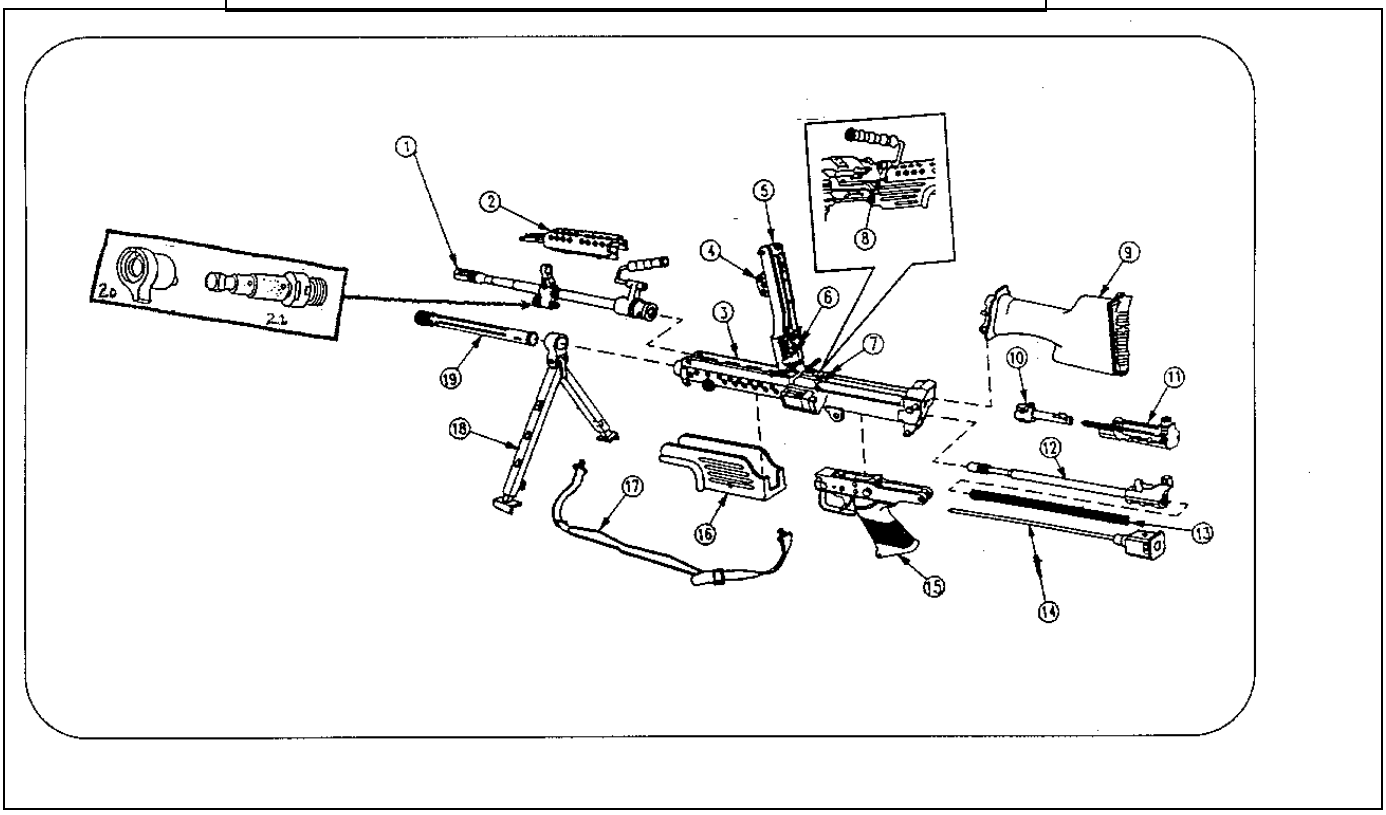





COVER LATCHES
Squeeze latches to open cover assembly.
COVER LATCHES
COVER ASSEMBLY
AMMO BELT


FEED TRAY
COVER ASSEMBLY
CHAMBER
COCKING HANDLE
TRIGGER
SAFETY

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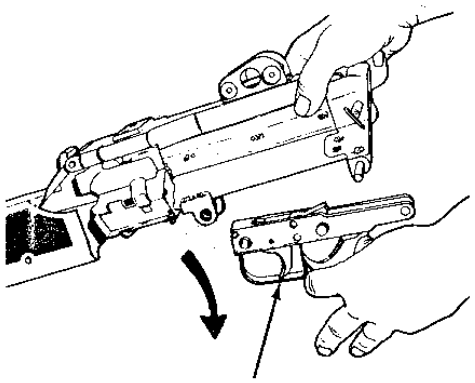
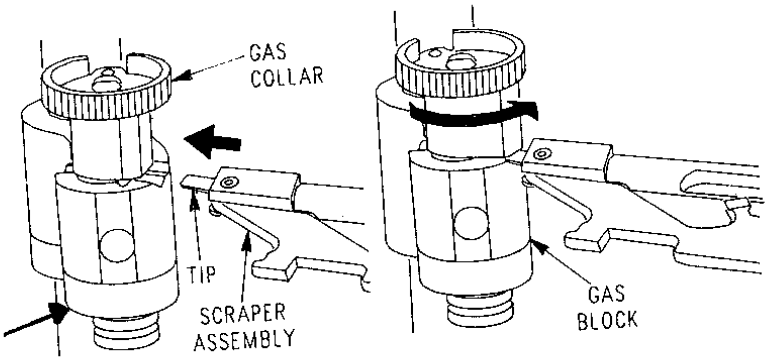
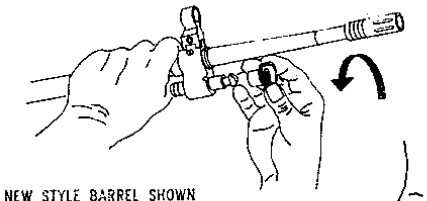


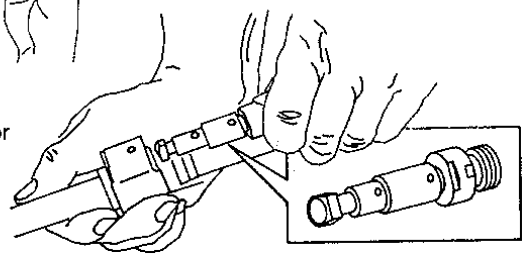


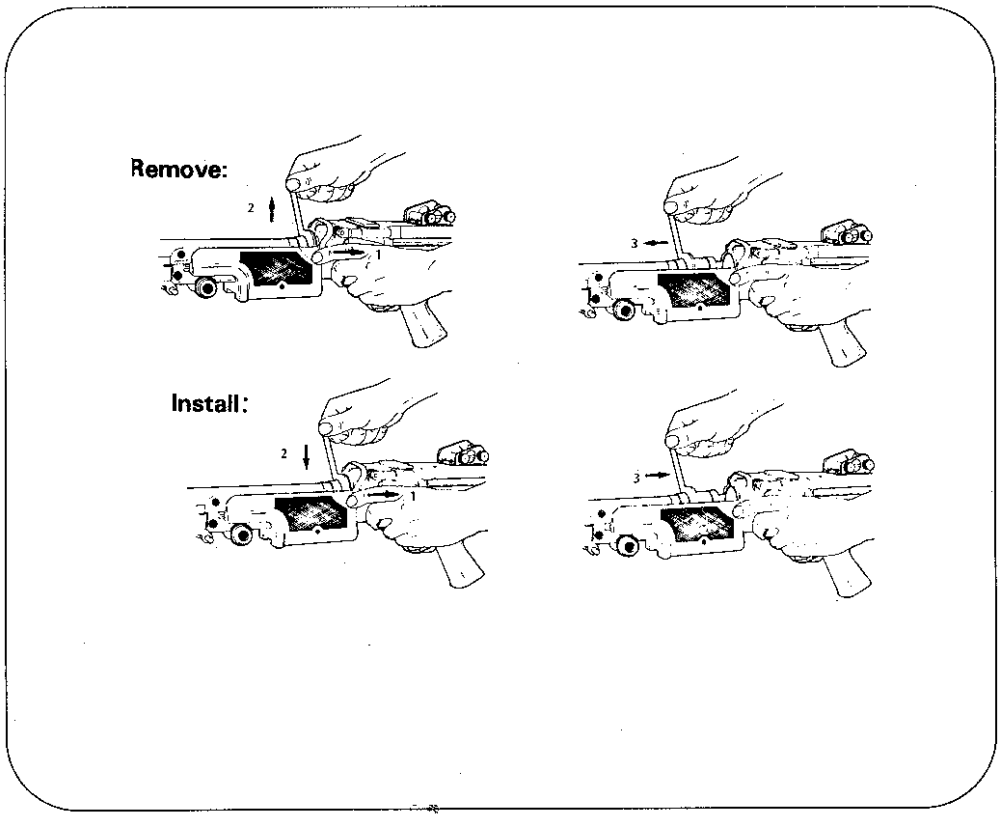


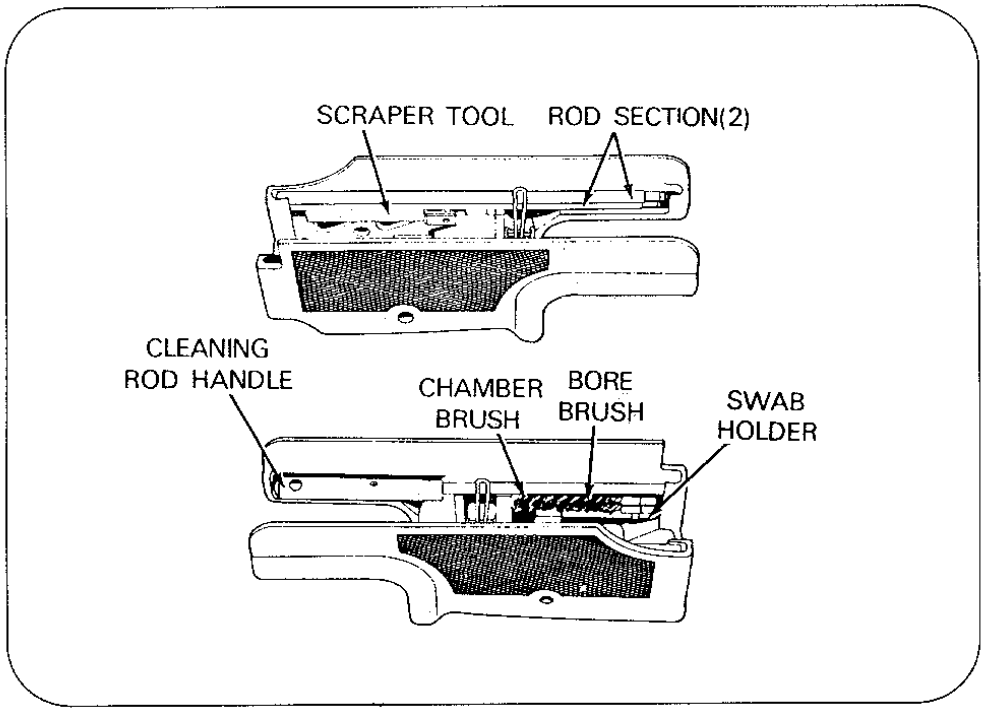
NOTE

Position hand to prevent gas regulator from falling out.

Remove the gas regulator from the gas block.




Remove:
2
1
3
Install:
2
1
3


SCRAPER TOOL
ROD SECTION(2)
CLEANING
ROD HANDLE
CHAMBER
BRUSH
BORE
BRUSH
SWAB
HOLDER